

12A, 20V - 40V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified available
- Low forward voltage drop
- Low power loss, high efficiency
- Guard ring for overvoltage protection
- High surge current capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converter

MECHANICAL DATA

- Case: DO-201AD
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 1.10g (approximately)

KEY PARAMETERS					
PARAMETER	VALUE	UNIT			
I _F	12	Α			
V_{RRM}	20 - 40	V			
I _{FSM}	320	Α			
T _{J MAX}	150	°C			
Package	DO-201AD				
Configuration	Single die				









DO-201AD



PARAMETER		SYMBOL	SR1202	SR1203	SR1204	UNIT
Marking code on the device			SR1202	SR1203	SR1204	
Repetitive peak reverse voltage		V_{RRM}	20	30	40	V
Reverse voltage, total rms value		$V_{R(RMS)}$	14	21	28	V
Forward current		I _F	12		Α	
Surge peak forward current, single half sine wave superimposed on rated load	t = 8.3ms		320 280		Α	
	t = 10ms	I _{FSM}			Α	
Peak repetitive forward current, f > 15Hz		I _{FRM}	55		Α	
Junction temperature in DC forward mode		TJ	-55 to +150 ≤ 200		°C	
Storage temperature		T _{STG}	-55 to +150		°C	

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THERMAL PERFORMANCE					
PARAMETER	SYMBOL	TYP	UNIT		
Junction-to-lead thermal resistance	$R_{\Theta JL}$	3	°C/W		
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	24	°C/W		

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 5A, T_J = 25^{\circ}C$	V _F	-	0.45	V
	I _F = 12A, T _J = 25°C		-	0.55	V
Reverse current @ rated V _R ⁽²⁾	T _J = 25°C	l _R	-	500	μA
	T _J = 100°C		-	20	mA

Notes:

- 1. Pulse test with PW = 0.3ms
- 2. Pulse test with PW = 30ms

RDERING INFORMATION				
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING		
SR12x	DO-201AD	1,250 / Tape & Reel		
SR12x A0G	DO-201AD	500 / Ammo box		
SR12xH	DO-201AD	1,250 / Tape & Reel		
SR12xHA0G	DO-201AD	500 / Ammo box		

Notes:

- 1. "x" defines voltage from 20V (SR1202) to 40V (SR1204)
- 2. "H" means AEC-Q101 qualified



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

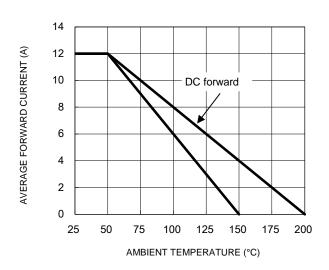


Fig.3 Typical Reverse Characteristics

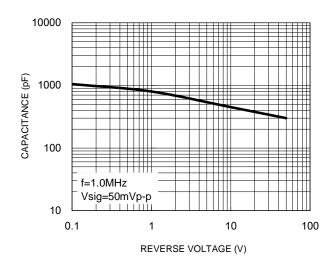
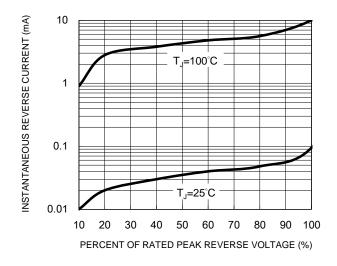


Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics



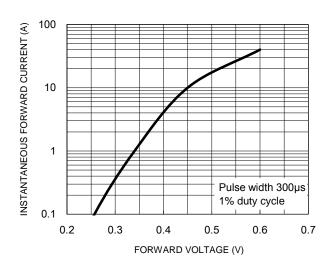
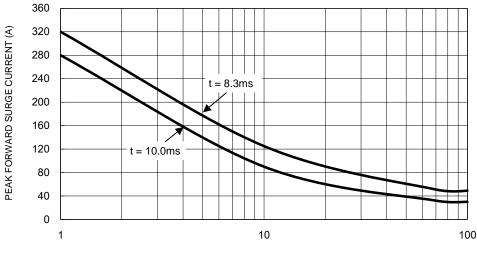


Fig.5 Maximum Non-Repetitive Forward Surge Current



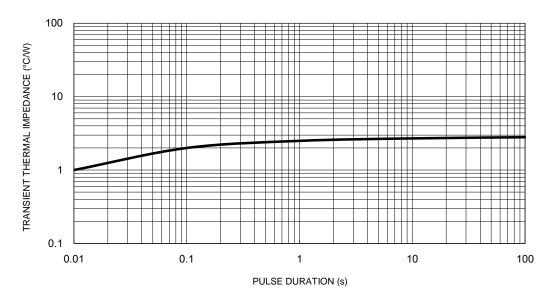
NUMBER OF CYCLES



CHARACTERISTICS CURVES

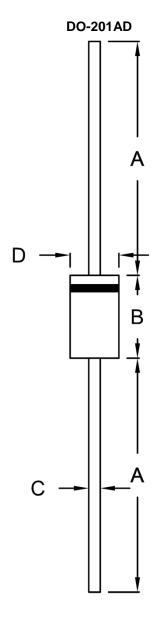
 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

Fig.6 Typical Transient Thermal Characteristics





PACKAGE OUTLINE DIMENSIONS



DIM. Unit (n		(mm)	Unit (Unit (inch)		
	Min.	Max.	Min.	Max.		
А	25.40	-	1.000	1		
В	8.50	9.50	0.335	0.374		
С	1.20	1.30	0.047	0.051		
D	5.00	5.60	0.197	0.220		

MARKING DIAGRAM



= Marking Code P/N G = Green Compound

YWW = Date Code = Factory Code F



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